

# Talha Karasu

 Istanbul, Turkey

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 karasu.me

## Education

**Istanbul Technical University** 2024 – 2029  
Bachelor's Degree, Robotics and Autonomous Systems Engineering

**Eskisehir Anatolian High School** 2020 – 2024

## Experience

**Software Team Member** (1 year) Oct 2024 – Present  
*ITU Autonomous Underwater Vehicle Team* Istanbul, Turkey

- Contributing to the development of AUV software using ROS, C++, and Python
- Worked on modern perception models (YOLO, RF-DETR), and their adaptations into underwater environments
- Designed and tuned control stacks, including hydrodynamic-compensated multi-DoF PID and LQR/MPC
- Implemented EKF-based localization for reliable odometry in noisy underwater environments
- Worked on the thruster/vehicle system identification pipeline and transferred identified parameters into simulation (Real2Sim)
- Achieved 3rd place at RoboSub 2025

**Robotics Mentor** (3 years) Jun 2022 – Jun 2025  
*FRC Team 9483: Istanbul Wildcats* Istanbul, Turkey

- Gained experience with advanced control algorithms for pose estimation and trajectory following, mainly using Java
- Developed a Progressive Web App (PWA) with Vue.js to collect and analyze scouting data, enhancing the team's match strategy
- Supported the team in achieving multiple tournament wins and awards, including being the FRC 2024 Houston World Championship Division Winner

**Web Developer Intern** (7 mos) Jun 2022 – Dec 2022  
*Kodesis Automation* Eskisehir, Turkey

- Developed and optimized web interfaces for automation projects using Vue.js
- Worked on real-time data from multiple automation systems, streaming it into a unified interface for enhanced monitoring
- Learned to manage tasks within a structured, real-world environment with deadlines

**Team Captain** (10 mos) Sep 2021 – Jun 2022  
*FRC Team 8828: EAL Robotics* Eskisehir, Turkey

- Co-founded the team and trained the software team members
- Developed robot control systems using Java for autonomous and manual operation
- Gained experience in designing electronic systems that utilize CAN Bus
- Led fundraising initiatives, successfully securing \$20,000+ in sponsorships to support team operations

## Languages

**Turkish** — Native — **English** — High Proficiency